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Forest Insect Laboratory
29 Forestry Bldg., U. C.
Berkeley 4, California
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FOREST INSECT SURVEY OF THE PLACERVILLE INFESTATION UNIT

SEASON OF 1952

Introduction

Because of the high values now at stake in the plantations and outplantings of the Institute of Forest Genetics, protection in the form of maintenance control of infested trees within a 2-mile radius of the Institute grounds was initiated early in 1951. It is planned that by this action bark-beetle populations can be kept at a minimum, preventing any rapid build-up in numbers and subsequent loss of experimental trees should conditions favor such a development. This control work is to be directed specifically against the western pine beetle (Dendroctonus brevicomis Lec.) for which acceptable control techniques have been developed. Although the five-spined engraver beetle (Ips confusus Lec.) also causes an appreciable mortality in pine timber in this area, application of direct control techniques have never proved to be satisfactory, and direct control of this insect is not undertaken. Control action undertaken during the first year resulted in the treatment of 42 infested trees by the personnel at the Institute.

The spotting of the current infestation was undertaken on February 12-13, and consisted of a general reconnaissance survey of the lands lying within a 2-mile radius from the Institute. Spotting and marking of the trees infested with the western pine beetle was accomplished by driving over all of the roads in the area concerned. This road system is rather extensive in this rural area and provides good access and visibility into all possible areas of infestation.

Extent and Location of the 1952 Infestation

When the infested trees were spotted and the presence of insect brood verified, the infested trees were blazed, numbered and their location plotted on the accompanying map. In addition, a spotter's tag (see attached form) was made out for each infested tree. Twenty-nine brood-containing trees were spotted within the maintenance zone and it is believed that this represents all of this winter's infestation. Only one infested tree was found with its crown still green. However, should any additional infested trees show up, they should receive prompt treatment. All of the trees were ponderosa pines with diameters ranging from 6" to 24". In addition to the western pine beetle broods, some of the trees were also infested with the five-spined engraver beetle.

Recommendations for Control

It is recommended that the same procedure of fell-peel-burn, that was so successfully undertaken last year, be used in this year's control work. Due to the climatic conditions which prevail in this area during the control season, burning of the infested material in piles where they are felled seems to be the most efficient and sure method of control. Where conditions do not permit burning at the site of felling, it is recommended that the logs be bucked and hauled to the Institute's dump for burning. Peeling and subsequent burning of the infested bark should be avoided wherever possible, unless it is judged by the crew foreman to be more expedient than either of the above methods.

It is suggested that the crew foreman be directed to fill out the back side of the spotting tags with the appropriate information on the time required and the methods used in treating each tree. Such information will facilitate the reporting of this control job and estimating the time and funds required for future control jobs in this area.

Other Insects

Two important matters of entomological significance have developed during the 1951 season which should be considered at this time. Perhaps the most important of these is the damage being done to young trees in the out-plantings on the Institute's grounds by grasshoppers. These insects (undetermined species) defoliated numerous small, 4-6 year old trees, and in addition, they were observed feeding on the cortex and phloem of the young shoots of 5-9 year old trees. This latter feeding resulted in partial to complete girdling of the affected shoots, and subsequently the affected shoots have died or become twisted and deformed. This damage occurred when the grass ground cover in the outplantings dried up early in the summer and the grasshoppers in search of green food moved onto the pines. Aldrin sprays formulated and applied by the Institute personnel resulted in effective control of the grasshopper population last year, but

it is recommended for the coming season that the spray be applied to all trees under 5 feet in height in the outplantings and that the spray be applied before the grass in the affected areas has completely dried out. Discing of the grass between the trees probably would greatly facilitate the control of these insects if a small disc suitable for this type of work can be procured.

The other outbreak of an insect which threatened the older plantings at the Institute is the recent build-up ^{OF IPS CROWN BEETLES} within and adjacent to "shot-gun" logging operations within the 2-mile buffer zone. Results of such operations are characterized by the area on the appended map labelled "Rupley's 1951 Cutting" in which several hundred thrifty trees were attacked by Ips and the western pine beetle subsequent to last summer's cutting. This outbreak evidently resulted from a rapid build-up of Ips in the untreated slash within the logged area. As yet there is no provision in the State Forest Practice Act for making some form of slash disposal mandatory although investigations have repeatedly shown that green slash is a primary cause of Ips outbreaks. The slashings within the area just referred to are now unsuited to further Ips breeding and no slash treatment is needed; however, a pole-cutting operation in an area just west of trees #26-29 is currently in progress. Observations indicate that green slashings are fairly abundant there and it is urged that some form of treatment be applied before mid-summer to prevent a possible heavy Ips infestation. This area is fairly close to the Institute and is well within the buffer zone.

In addition, windbreak occurs within the protected area and is well suited as a breeding place for Ips beetles. Whenever this material is encountered by the control personnel it should be treated to dry out the inner bark. Small material can be consumed by fire but it is easier to bark the larger material and the amount of this material is not great.

In general, whenever small cutting operations occur near the Institute someone, possibly the Extension Forester, should contact the owner and urge that slash disposal be encouraged in the operation as a preventative measure since these beetles present a serious threat to the pine plantations at the Institute.

SUBMITTED BY:

APPROVED BY:

Robert Z. Callahan
Biological Aid

F. P. Keen, in Charge

Malcolm M. Furniss, Forester

LIST OF INFESTED TREES TO WITHIN BUFFER ZONE
SURROUNDING EXPERIMENTAL TREES AT INSTITUTE
OF FOREST GENETICS, PLACERVILLE, CALIF.

February 12-13, 1952

<u>Tree No.</u>	<u>D.b.h.</u>	<u>Description</u>	<u>Location (Section)</u>	<u>Remarks</u>
1	16		32	
2	16	In <u>Ips</u> group	34	
3	10			
4	8			
5	6			
6	14			
7 n	12			
8	16			
9	22	Red top, green lower limbs		
10	24			
11	14			
12	16			
13	12			
14	14			
15	10			
16	16			
17	22			
18	24			
19	14			
20	10			
21	20			
22	14			
23	8			
24	20	No woodpecker work	10	2 dogs prevented close inspection.
25	16	In group of 6 fades beside logging road	11	
26	12			
27	22	Green crown, no woodpecker work	14	In <u>Ips</u> group
28	16	Red top, green lower limbs		
29	18	" " " " "		

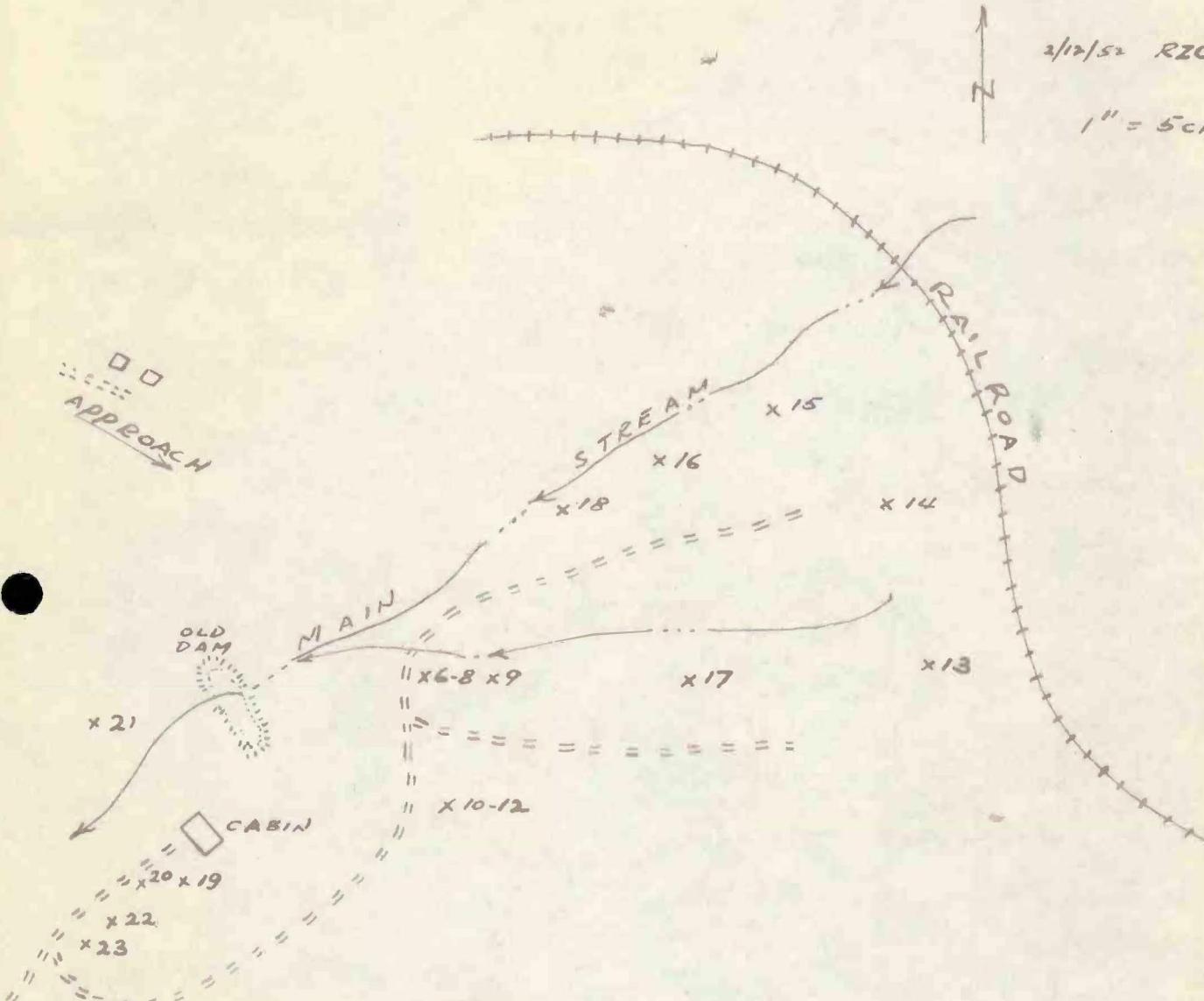
1/ All trees are completely faded and evidence of woodpecker work is visible unless otherwise noted.

LOCATIONS OF INFESTED TREES
ON RUPLEY'S 1951 CUTTING

SECTION 12

2/12/52 RZC, MMF

1" = 5 CHAINS



NOTES:

1. NOS. 20, 23 MAY NOT CONTAIN BROODS BUT
HAVE PITCH TUBES. FELL & INSPECT.

2 ALL OTHERS SHOW WOODPECKER WORK
WHICH CAN BE SEEN FROM A DISTANCE.

